

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-26 (cancelled).

Claim 27 (currently amended): An ionic conductor having comprising: a derivative in which an ion-dissociative group is bound to a carbonaceous substance composed of at least one species selected from the group consisting of fullerene molecule, cluster mainly composed of carbon, and structure of linear or tubular carbon; and

a polymerized substance having a basic group, wherein the polymerized substance having said basic group is a polymer of a compound containing at least any one of a nitrogen atom, an oxygen atom and a sulfur atom,

wherein an ion complex is formed between the derivative and the polymerized substance having the basic group, and the derivative is a crosslink point between different portions of the polymerized substance having the basic group.

Claim 28 (previously presented): The ionic conductor as claimed in Claim 27, wherein said derivative comprises a chemical or physical, coupled or crosslinked product of said carbonaceous substances.

Claim 29 (previously presented): The ionic conductor as claimed in Claim 27, in which said derivative bound with said ion-dissociative group and the polymer of said substance having said basic group are mixed.

Claim 30 (previously presented): The ionic conductor as claimed in Claim 27, wherein at least one of said ion-dissociative group is an acidic functional group.

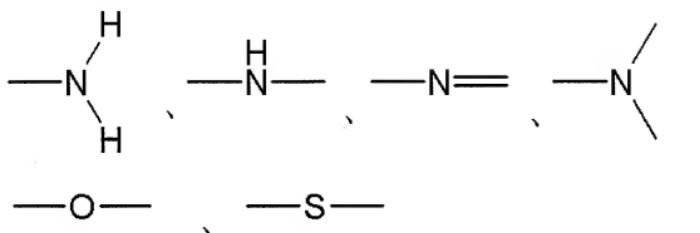
Claim 31 (previously presented): The ionic conductor as claimed in Claim 27, wherein a ratio of said ion-dissociative group and said basic group is 20 or less on the molar basis.

Claim 32 (previously presented): The ionic conductor as claimed in Claim 27, wherein said ion-dissociative group is at least one species selected from the group consisting of -SO₃M, -PO(OM)₂, -SO₂NMSO₂⁻, -SO₂NM₂, -COOM, =CPO(OM)₂ and =C(SO₃M)₂, where, M is a cation producible group.

Claim 33 (previously presented): The ionic conductor as claimed in Claim 27, wherein at least a functional group having said ion-dissociative group is bound to said carbonaceous substance, said functional group being at least one species selected from the group consisting of -A-SO₃M, -A-PO(OM)₂, -A-SO₂NMSO₂-R⁰, -A-SO₂NM₂ and A-COOM, where A represents -O-, -R-, -O-R-, -R-O-, -O-R-O- or -R-O-R'-, where R and R' are any one of alkyl component and fluoroalkyl component respectively expressed by C_xH_y and C_xF_yH_z (1 ≤ x ≤ 20, 1 ≤ y ≤ 40, 0 ≤ z ≤ 39), and where M represents a cation producing group, and R⁰ represents -CF₃ or -CH₃.

Claim 34 (cancelled).

Claim 35 (previously presented): The ionic conductor as claimed in Claim 27, wherein the polymer of said substance contains at least any one of structural components expressed by a structural formula as follows:



Claim 36 (previously presented): The ionic conductor as claimed in Claim 27, wherein said basic portion of the polymer of said substance is at least any one species selected from the group consisting of amino group, pyrrolidone group, pyridine group, imidazole group, pyrimidine group, piperazine group, pyrrole group, pyrrolidine group, pyrazole group, benzimidazole group, phenylimidazole group and pyrazine group.

Claim 37 (previously presented): The ionic conductor as claimed in Claim 27, wherein a polymer of said compound containing the nitrogen atom is a polymer of a heterocyclic compound.

Claim 38 (previously presented): The ionic conductor as claimed in Claim 35, wherein the polymer of said compound having said basic group is at least any one species selected from the group consisting of polymers having a structure of imidazole, pyrrole, pyrrolidine, pyridine, pyrazole, benzimidazole, phenylimidazole, vinylimidazole, pyrazine, piperazine, oxazole, isooxazole, thiazole, isothiazole, furan, thiophene, and derivatives thereof.

Claim 39 (withdrawn): A method of manufacturing an ionic conductor, the method comprising:

dissolving a derivative in which an ion-dissociative group is bound to a carbonaceous substance composed of:

at least one species selected from the group consisting of:

fullerene molecule;

cluster mainly composed of carbon; and

structure of linear or tubular carbon; and

a polymer of a substance having a basic group, into a solvent to thereby prepare a homogeneous solution; and

removing said solvent.

Claim 40 (withdrawn): A method of manufacturing an ionic conductor, the method comprising:

dissolving a derivative in which an ion-dissociative group is bound to a carbonaceous substance composed of:

at least one species selected from the group consisting of:

fullerene molecule;

cluster mainly composed of carbon; and

structure of linear or tubular carbon; and

a polymer of a substance having a basic group, into respective solvents to thereby prepare respective homogeneous solutions; and

mixing these homogeneous solutions and recovering an insoluble component.

Claim 41 (withdrawn): A method of manufacturing an ionic conductor, comprising:

mixing a derivative in which an ion-dissociative group is bound to a carbonaceous substance composed of:

at least one species selected from the group consisting of:

fullerene molecule;

cluster mainly composed of carbon; and

structure of linear or tubular carbon; and

a monomer of a substance having a basic group; and

allowing said mixture to polymerize to thereby manufacture an ionic conductor having said derivative and the polymer of said substance having said basic group.

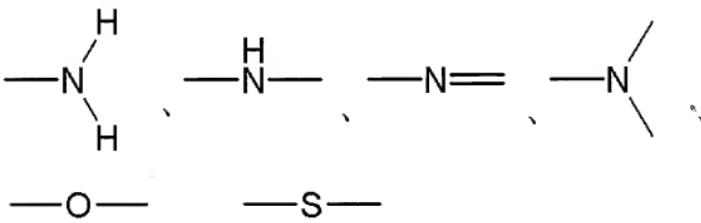
Claim 42 (withdrawn): The method of manufacturing an ionic conductor as claimed in any one of Claims 39, 40 and 41, wherein a molar ratio of said ion-dissociative group and said basic group is adjusted to 20 or less.

Claim 43 (withdrawn): The method of manufacturing an ionic conductor as claimed in any one of Claims 39, 40 and 41, using, as said ion-dissociative group, at least any one species selected from the group consisting of $-SO_3M$, $-PO(OM)_2$, $-SO_2NMSO_2^-$, $-SO_2NM_2$, $-COOM$, $=CPO(OM)_2$ and $=C(SO_3M)_2$, where, M represents a cation producing group.

Claim 44 (withdrawn): The method of manufacturing an ionic conductor as claimed in any one of Claims 39, 40 and 41, using, as said derivative, said carbonaceous substance bound with a functional group having at least said ion-dissociative group, said functional group being at least one species selected from the group consisting of -A-SO₃M, -A-PO(OM)₂, -A-SO₂NMSO₂-R⁰, -A-SO₂NM₂ and A-COOM, where, A represents -O-, -R-, -O-R-, -R-O-, -O-R-O- or -R-O-R'-, where R and R' are any one of alkyl component and fluoroalkyl component respectively expressed by CxHy and CxFyHz (1 ≤ x ≤ 20, 1 ≤ y ≤ 40, 0 ≤ z ≤ 39), and where M represents a cation producing group, and R⁰ represents -CF₃ or -CH₃.

Claim 45 (withdrawn): The method of manufacturing an ionic conductor as claimed in any one of Claims 39, 40 and 41, wherein the polymer of said substance having said basic group is a polymer of a compound containing at least any one of a nitrogen atom, an oxygen atom and a sulfur atom.

Claim 46 (withdrawn): The method of manufacturing an ionic conductor as claimed in any one of Claims 39, 40 and 41, wherein the polymer of said substance contains at least any one of structural components expressed by a structural formulae as follows:



Claim 47 (withdrawn): The method of manufacturing an ionic conductor as claimed in any one of Claims 39, 40 and 41, using, as said basic portion of the polymer of said substance, at least any one species selected from the group consisting of amino group, pyrrolidone group, pyridine group, imidazole group, pyrimidine group, piperazine group, pyrrole group, pyrrolidine group, pyrazole group, benzimidazole group, phenylimidazole group and pyrazine group.

Claim 48 (withdrawn): The method of manufacturing an ionic conductor as claimed in Claim 45, wherein a polymer of said compound containing the nitrogen atom is a polymer of a heterocyclic compound.

Claim 49 (withdrawn): The method of manufacturing an ionic conductor as claimed in Claim 46, wherein the polymer of said compound having said basic group is at least any one species selected from the group consisting of polymers having a structure of imidazole, pyrrole, pyrrolidine, pyridine, pyrazole, benzimidazole, phenylimidazole, vinylimidazole, pyrazine, piperazine, oxazole, isooxazole, thiazole, isothiazole, furan, thiophene, and derivatives of them.

Claim 50 (withdrawn): An electrochemical device comprising a negative electrode, a positive electrode, and an ionic conductor held therebetween, said ionic conductor having a derivative in which an ion-dissociative group is bound to a carbonaceous substance composed of at least one species selected from the group consisting of fullerene molecule, cluster mainly composed of carbon, and structure of linear or cylindrical carbon; and a polymer of a substance having a basic group.

Claim 51 (withdrawn): The electrochemical device as claimed in Claim 50, wherein said ionic conductor is the ionic conductor described in any one of Claims 28 to 38.

Claim 52 (withdrawn): The electrochemical device as claimed in Claim 50, being configured as a fuel cell.